

## Patent Abstracts of Japan

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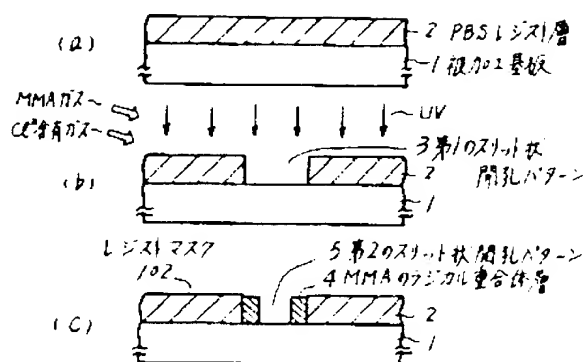
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APPLICANT : FUJITSU LTD;

INVENTOR : HASHIMI KAZUO;

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TITLE : FORMATION OF RESIST MASK



ABSTRACT : PURPOSE: To permit easy formation of a resist mask provided with a slit-shaped aperture pattern having high accuracy by using a resist which is not photodecomposable to form a mask layer having the aperture pattern and depositing an active seed (radical) polymer of a photodecomposable resist monomer selectively to the side face of the aperture pattern.

CONSTITUTION: A positive resist layer 2 which excels in not only photodecomposability but resolution as well for exposure by an electron beam is formed on a substrate 1 to be worked. A slit pattern is exposed to the resist layer 2 and the resist layer 2 is developed so that the 1st slit-shaped aperture pattern 3 is formed thereon. UV light is then projected perpendicularly to the resist layer 2 having the 1st slit-shaped aperture pattern 3 and a gaseous resist monomer having photodecomposability and gas contg. radicals are supplied on the resist layer 2 in this state to deposit the radical polymer layer 4 of MMA contg. Cl selectively only on the side face of the 1st slit-shaped aperture pattern 3 of the resist layer 2. The resist mask 102 provided with the aperture pattern 5 having a submicron width is thereby formed.

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